

accepting its value we must, I fear, abandon the assumption that $\mu = 1$ at the limit of the Earth's atmosphere, and assume that its value is about 1.0000019.

In this way we can make Biot's value of μ_0 give us Bessel's Refraction at Z.D. 45° , for

$$R = \int_{\mu_0}^{\mu_0} \phi'(\mu) \cdot d\mu = \phi(\mu) \cdot \frac{\mu - \mu_0}{\mu_0} - \dots$$

and the first term = $\tan z \cdot \frac{\mu - \mu_0}{\mu} = 58.29$ as before.

This supposition gives with Bessel's law of density a height of about 27 miles to the atmosphere.

But, if this explanation be accepted, the agreement which is found between Bessel's Refractions and the observations at the smaller zenith distances is a forced agreement, arising from the errors of the theory being counteracted by an erroneous determination of μ_0 , and although the errors thus introduced at considerable zenith distances may be destroyed by the aid of the second constant β , we must be liable to a separation between the true refractions and those obtained from such a strained theory at intermediate and perhaps unexpected points; such errors, if they were small, as they must be, would scarcely be found without a systematic examination, with a considerable number of observations, of the results at many of the intermediate zenith distances.

Upon this work, and an attempted revision of Bessel's Theory, on the lines here indicated, I am at present engaged.

A *List of 410 Radiation-points of Shooting Stars, deduced from Observations in Hungary in the Years 1871 to 1878, and of 80 probable Radiants deduced from the 410 Radiation-points.* By Prof. N. de Konkoly, Member of the Hungarian Academy at Budapest, Director of the Observatory at O'Gyalla.

The present paper is based upon observations in Hungary, in the years 1871 to 1878, of 2999 shooting stars; but of these only 1641 are used for the determination of Radiation-points, the others being rejected as relating to sporadic stars, or as being bad observations.

I have deduced from this large number of observations 410 Radiation-points.

The shooting stars were observed in Hungary at 5 stations:—

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		Long.				Lat.		
		h	m	s		°	'	"
1	Astrophysical Observatory, O'Gyalla	λ=0	7	13.9	E.*	D=47	52	43.4
2.	Real School at Agram 	λ=0	1	30.7	W.	D=45	50	
3.	Forest Academy, Schemnitz ...	λ=0	10	5	E.	D=48	27	
4.	Economical School at Hodmezövásárhely 	λ=0	15	1	E.	D=46	26	
5.	Gymnasium at Szathmárnémethi	λ=0	26	1	E.	D=47	46	

The observers were : at O'Gyalla, the staff of the Observatory ; at Agram, Professor Stozir ; at Schemnitz, Professor Dr. Schwarz ; at Hodmezövásárhely, Professor Nagy, and at Szathmárnémethi, Professor Toth.

I arrange as follows the whole series of observations, to show how they are distributed in the 8 years.

The first column gives the year ; the second, the number of days on which observations were employed for the determination of Radiation-points ; the third shows the number of Radiation-points ; and the fourth shows how many shooting stars were employed for the calculation of the Radiation-points. I give separately the results for each station, and finally the sum from all the stations.

Table of Distribution of Meteors in different Years.

O' Gyalla—Observatory.

Year.	Observing Days.	Number of Radiation-points.	Number of Meteors employed.
1871	3	13	44
1872	12	71	278
1873	10	33	105
1874	7	68	271
1875	10	84	361
1876	6	22	89
1877	3	7	28
1878	8	18	66
Sum	59	316	1242

Schemnitz—Academy.

1875	4	8	36
1876	2	6	20
1878	2	3	10
Sum	8	17	66

* E. or W. from Vienna Observatory.

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Hodmezörsárhely—Economical school.

Year.	Observing Days.	Number of Radiation-points.	Number of Meteors employed.
1875	Only two sporadic fireballs.		
1876	5	29	120
1877	1	2	6
1878	3	8	31
Sum	9	39	157

Agram—R. Real School.

1875	2	11	37
1876	2	4	12
1877	3	10	52
Sum	7	25	101

Szathmárnémeti—Gymnasium.

1875	3	13	75
Total Sum	86	410	1641

The Radiation-points are deduced as follows: the right ascension and declination for the beginning and the end of each shooting star were laid down in a chart, constructed for this purpose. The charts are on the gnomonic projection, and large enough for estimated 0°·5 at 45° declination, and 1° at 85° declination. The path of each shooting star was drawn with a sharp pencil with as much precision as possible, and after this operation the paths were prolonged backwards, until several paths met in or near a point, and the 410 Radiation-points were thus determined upon the chart. The shooting stars used for the determination were within at most four days of each other; but it was only in the case of very poor showers that so long an interval was taken.

The Radiation-points were laid down on a new chart, and from those near each other the 80 probable Radiants were calculated by the method of least squares.

In the following three tables, Table I. contains the Radiation-points deduced from the O'Gyalla observations; Table II., those from the other stations. In each of these tables the first column shows from how many meteors the Radiation-point was deduced: the second and third give the R.A. and Declination of the Radiation-point. The left-hand three columns are to be read separately from, and as preceding, the right-hand three columns.

The two tables show Radiation-points for—

1. *February*, 20 and 24, observed at O'Gyalla.
2. *April*: April 19, 20 and 21, 1874; April 19, 20 and 21, 1878, from O'Gyalla; 1876, April 20, 22, from Agram; and 1878, April 20, 21, from Schemnitz.
3. *July*: 1873, July 25, 26, 27, 28 and 29; 1875,

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- July 26, 27, 28, 29 and 31; 1876, July 26, 27 and 28; 1877, July 27; and 1878, July 28 and 29, from O'Gyalla. For the same shower: 1875, July 25, 26, 27 and 28, from Schemnitz; 1876, July 26 and 27; 1878, July 25 and 26 from Schemnitz; 1875, July 25 and 27, from Agram; and 1878, July 28, from Hodmezövásárhely.
4. August: 1871, August 9; 1872, August, 6, 7, 9, 10, 11, 12 and 13, from O'Gyalla; 1873, August 8, 9, 10; 1874, August 8, 10, 11 and 12; 1875, August 8, 9, 10, 11 and 12; 1876, August 12, 13, and 14; 1877, August 12 and 13; and 1878, August 9, 10 and 12, also from O'Gyalla; 1875, August 10, 11 and 12, from Szathmár; 1876, August 12 and 13; 1877, Aug. 10, from Hodmezövásárhely; 1877, August 11, 12 and 13, from Agram.
5. October: 1872, October 20, 22, 25 and 27; 1873, October 22, from O'Gyalla.
6. November: 1872, November 28; and finally, 1873, November 12, from O'Gyalla.

Table III. contains the deduction of the 80 probable Radiants: the first column gives the current Nos., 1 to 80; the second column shows the Radiation-points used in the determination: viz. these are referred to by means of the current Nos. of the observations for the year and day or days, as appearing by the first and second tables; the third and fourth columns give the R.A. and Declination of the probable Radiants.

TABLE I. (O'Gyalla.)

1871. February 20, 24. Nos. 1 to 3.					
No. of Meteors.	Radiation-points.		No. of Meteors.	Radiation-points.	
	R.A.	Decl.		R.A.	Decl.
3	50°0	56°0	3	205°0	31°0
3	90°0	50°0			
1874. April 19, 20, 21. Nos. 1 to 5.					
3	223°5	59°5	4	267°0	37°0
3	229°0	67°5	3	269°5	28°0
3	259°0	19°0			
1878. April 19, 20, 21. Nos. 1 to 4.					
3	216°0	60°0	4	257°0	43°0
3	217°5	55°5	4	264°0	23°5
1873. July 25, 26. Nos. 1 to 9.					
4	3°0	67°5	6	312°0	-8°0
7	212°5	57°5	6	323°5	3°5
6	279°0	81°5	6	327°0	25°0
6	302°0	41°0	4	351°0	64°0
18	304°0	60°0			

1873. July 27. Nos. 10 to 14.

No. of Meteors.	Radiation-points.		No. of Meteors.	Radiation-points.	
	R.A.	Decl.		R.A.	Decl.
6	274°0	74°0	6	331°5	5°5
7	299°0	69°5	4	351°0	61°5
4	320°0	0°0			

1873. July 28, 28. Nos. 15 to 18.

5	0°0	90°0	4	325°0	65°0
5	316°0	-10°0	5	328°0	22°0

1875. July 26, 27, 28, 29. Nos. 1 to 14.

4	1°0	35°5	6	310°0	43°0
5	2°5	63°5	3	310°0	71°0
4	282°0	54°5	4	313°0	45°0
5	288°0	50°0	4	315°0	45°0
4	297°5	3°5	4	315°0	72°0
3	308°0	40°0	5	321°0	36°5
6	308°0	51°0	4	335°0	3°0

1875. July 31. Nos. 15 to 24.

5	276°0	39°0	6	316°5	17°0
3	293°0	-3°0	3	318°0	19°0
4	298°0	-8°0	5	332°0	24°5
3	213°0	30°0	4	339°0	27°0
3	315°0	31°5	4	353°0	47°5

1876. July 26, 27, 28. Nos. 1 to 15.

3	4°0	65°5	5	325°0	74°5
3	6°5	63°5	5	328°0	44°5
3	9°5	67°0	4	338°5	41°0
4	195°0	75°0	4	339°0	41°0
4	287°5	44°0	4	342°5	75°5
5	288°0	46°0	5	352°0	69°5
4	308°0	57°0	3	359°0	67°0
5	312°0	41°5			

1877. July 27. Nos. 1 and 2.

4	51°5	59°0	4	68°0	85°0
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1878. *July 28, 29.* Nos. 1 to 11.

No. of Meteors.	Radiation-points.		No. of Meteors.	Radiation-points.	
	R.A.	Decl.		R.A.	Decl.
3	100°0	84°0	6	288°0	45°5
3	132°0	83°0	3	304°0	-4°5
3	284°0	30°0	3	306°0	-2°5
3	287°0	30°0	4	349°0	18°0
5	287°5	3°0	5	352°0	13°0
3	288°0	33°0			

1871. *August 9.* Nos. 1 to 10.

4	22°0	71°5	3	242°0	48°0
4	96°0	71°0	4	247°0	50°5
3	140°0	83°0	3	266°0	44°5
3	161°0	83°5	4	268°0	60°0
3	179°9	79°5	4	271°0	44°0

1872. *August 6, 7.* Nos. 1 to 5.

3	300°0	39°0	4	337°0	43°0
3	306°0	45°5	3	342°0	52°0
3	309°5	42°5			

1872. *August 9.* Nos. 6 to 19.

4	6°0	4°0	5	324°5	59°0
5	249°0	61°0	4	330°0	76°0
4	265°5	28°5	3	343°0	60°0
4	270°0	57°0	3	346°5	48°0
7	276°5	14°5	4	346°5	59°0
4	298°5	56°0	3	347°5	47°0
4	312°0	46°0	3	351°0	58°5

1872. *August 10.* Nos. 20 to 38.

4	8°0	67°5	7	326°0	73°0
5	41°0	58°0	5	340°0	68°0
3	43°5	58°0	4	341°0	38°0
4	248°5	25°0	4	342°5	56°0
4	294°0	28°0	4	343°0	52°5
4	300°0	26°0	4	343°0	66°5
5	309°0	56°0	6	343°0	66°5
4	311°0	48°5	4	353°5	57°5
6	322°0	69°5	7	355°0	68°0
4	323°5	38°0			

1872. August 11. Nos. 39 to 46.

No. of Meteors.	Radiation-points.		No. of Meteors.	Radiation-points.	
	R.A.	Decl.		R.A.	Decl.
7	295°0	60°0	5	334°5	44°5
5	297°0	20°5	5	336°0	42°0
7	313°5	8°5	5	338°0	45°0
4	330°0	60°0	3	340°0	45°0

1872. August 12, 13. Nos. 47 to 59.

3	4°0	45°0	3	331°0	63°5
3	8°5	47°5	3	340°5	44°0
3	11°5	46°5	3	352°0	52°0
4	28°5	48°5	3	355°0	46°0
4	32°0	63°0	3	358°0	40°0
3	304°0	50°0	4	95°0	87°0
3	328°0	59°0			

1873. August 8, 9, 10. Nos. 1 and 2.

3	19°0	65°0	3	290°0	49°0
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1874. August 8, 10. Nos. 1 to 40, and (next page) Nos. 41 to 56.

3	0°0	55°0	6	38°5	58°5
3	1°0	53°0	5	39°0	48°5
3	1°0	52°0	3	39°0	66°0
3	3°0	53°0	4	40°0	68°5
4	9°5	40°5	3	42°0	66°0
5	11°0	46°0	4	43°0	68°5
5	18°5	47°5	4	46°5	58°5
3	24°0	66°5	4	48°0	63°0
3	25°0	65°5	6	50°0	84°0
3	27°0	67°0	5	54°0	69°5
3	28°0	65°0	4	63°0	67°0
3	29°5	67°5	4	63°0	68°5
4	31°0	49°5	4	64°5	59°7
5	32°0	48°0	5	72°0	64°0
4	32°0	59°7	6	78°0	66°5
3	33°0	67°0	4	86°0	65°0
4	36°0	77°5	4	170°0	86°0
6	37°0	58°0	4	273°0	47°5
4	38°0	63°0	3	321°5	49°5
4	38°5	67°5	4	323°0	46°0

No. of Meteors.	Radiation-points.		No. of Meteors.	Radiation-points.	
	R.A.	Decl.		R.A.	Decl.
3	325°0	49°5	3	355°0	52°0
7	325°5	18°0	3	357°0	51°5
4	326°0	16°0	4	357°0	39°5
4	326°0	-13°0	4	358°0	52°0
5	343°0	50°5	3	358°0	50°5
5	345°0	41°0	3	358°0	53°5
7	346°0	46°5	5	359°5	74°0
4	350°2	27°0	5	359°5	42°0

1874. August 11, 12. Nos. 57 to 63.

4	217°0	73°0	3	290°0	52°0
3	250°0	73°0	4	292°0	48°0
3	263°0	67°0	5	337°0	70°0
3	270°0	72°0			

1875. August 8. Nos. 1 to 4.

3	18°0	73°5	3	29°0	71°5
3	21°0	77°5	3	323°0	72°0

1875. August 9. Nos. 5 to 21.

5	8°0	48°5	3	309°0	31°5
6	28°0	51°0	3	326°0	56°0
4	58°0	63°5	5	328°0	55°0
4	62°0	68°5	3	330°0	56°0
4	260°0	66°0	3	330°0	54°0
5	279°0	17°5	3	332°0	52°5
4	298°5	55°5	3	335°0	56°0
3	307°0	33°0	5	355°0	52°5
4	308°0	43°5			

1875. August 10. Nos. 22 to 37, and (next page) Nos. 38 to 55.

4	6°0	77°5	5	40°5	63°0
4	22°5	37°0	6	46°5	52°0
5	22°5	52°5	5	47°0	50°5
7	28°0	49°5	3	48°5	51°0
5	28°5	55°0	5	52°0	67°0
5	32°0	57°5	4	63°5	66°0
5	34°5	55°0	6	65°0	83°0
6	38°0	67°0	5	85°0	72°5

April 1880. of Shooting Stars deduced from Observations etc. 357

No. of Meteors.	Radiation-points.		No. of Meteors.	Radiation-points.	
	R.A.	Decl.		R.A.	Decl.
4	88°5	67°0	4	317°0	73°0
4	248°0	55°5	6	322°0	47°0
4	250°0	52°5	4	322°0	82°0
5	268°0	43°5	7	326°5	58°0
4	270°0	49°5	4	327°0	48°5
5	274°0	47°5	6	337°0	77°0
5	280°0	83°5	5	339°0	70°5
4	282°0	45°0	6	343°0	76°5
6	296°0	43°0	4	348°0	78°0

1875. August 11, 12. Nos. 56 to 60.

3	39°5	43°0	3	257°0	47°0
5	40°0	79°5	3	258°5	50°0
4	57°0	79°5			

1876. August 12, 13, 14. Nos. 1 to 7.

5	102°0	61°7	5	271°5	56°5
5	216°5	55°5	4	303°0	48°0
5	220°0	56°0	4	310°0	75°0
5	254°0	36°5			

1877. August 12, 13. Nos. 1 to 5.

4	0°0	84°5	4	9°0	45°0
4	3°0	50°0	4	36°5	61°5
4	7°0	55°5			

1878. August 9, 10, 12. Nos. 1 to 3.

3	2°5	41°0	4	358°0	39°0
4	38°0	67°0			

1872. October 20, 22, 25, 27. Nos. 1 to 9.

3	5°0	38°5	3	325°0	67°5
3	243°0	42°0	3	330°0	53°0
3	276°0	50°0	3	337°5	64°0
3	302°5	35°0	3	341°0	20°0
4	325°0	62°5			

1873. October 22. No. 1.

No. of Meteors.	Radiation-points.		No. of Meteors.	Radiation-points.	
	R.A.	Decl.		R.A.	Decl.
3	47°0	53°5			

1872. November 21. Nos. 1 to 3.

3	77°5	50°0	4	333°5	59°0
3	319°0	68°0			

1873. November 12. Nos. 1 and 2.

4	335°5	28°5	3	351°0	45°0
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TABLE II. (Other Stations.)

AGRAM.

1876. April 20, 22. Nos. 1 to 4.

3	181°0	55°0	3	225°0	46°0
3	224°0	-3°0	3	272°0	43°5

1875. July 25, 27. Nos. 1 to 11.

4	3°5	61°0	3	314°0	- 8°5
4	16°0	81°0	3	320°0	66°5
3	300°0	59°0	3	322°0	- 6°0
3	305°0	-11°5	3	326°5	8°0
3	309°5	- 7°5	5	350°5	56°5
3	313°5	4°5			

1877. August 11, 12, 13. Nos. 1 to 10.

6	249°0	9°0	5	276°0	- 7°5
4	251°8	-24°0	4	278°0	-15°2
5	260°5	5°0	6	288°0	4°0
4	270°0	1°5	5	296°0	19°0
5	272°5	-20°2	8	309°0	13°5

SCHEMNITZ.

1875. July 25, 26, 27, 28. Nos. 1 to 8.

4	276°0	15°5	4	343°0	57°5
4	282°5	-15°0	4	344°0	20°0
6	308°0	- 3°5	4	345°5	56°5
4	334°0	57°5	6	352°5	19°0

1876. July 26, 27. Nos. 1 to 6.

No. of Meteors.	Radiation-points.		No. of Meteors.	Radiation-points.	
	R.A.	Decl.		R.A.	Decl.
4	105°0	71°0	4	245°0	11°5
3	232°0	17°0	3	273°5	41°0
3	237°5	30°0	3	274°5	16°0

1878. July 25, 26. Nos. 1 to 3.

4	263°0	52°5	3	279°0	46°0
3	271°0	36°0			

SZATHMÁR-NÉMETHI.

1875. August 10, 11, 12. Nos. 1 to 13.

4	5°0	21°0	7	46°5	50°0
5	8°5	16°5	12	49°5	58°5
5	17°0	28°5	8	63°0	46°0
8	18°0	8°0	4	59°0	25°0
4	23°0	58°5	4	71°0	53°0
8	38°0	53°5	4	338°0	71°5
4	44°0	41°5			

HODMEZŐ-VÁSÁRHELY.

1878. April 20, 21. Nos. 1 to 5.

3	249°0	23°0	7	275°0	40°5
3	249°0	27°5	4	303°0	47°5
4	256°0	23°5			

1878. July 25. Nos. 1 to 3.

3	90°0	90°0	4	329°0	45°5
3	327°0	26°0			

1876. August 9, 10, 11. Nos. 1 to 20.

5	4°5	44°0	5	60°0	78°5
4	5°0	2°5	4	72°0	72°0
4	9°0	2°0	4	90°0	90°0
4	7°0	40°0	3	139°0	59°0
4	12°5	25°0	5	320°0	70°0
4	20°0	67°0	4	330°0	58°0
5	22°5	59°0	4	340°0	30°0
6	43°0	63°0	5	346°0	41°0
5	51°5	56°5	4	347°0	46°0
6	60°0	77°5	3	348°0	43°0

1876. August 12, 13. Nos. 1 to 9.

No. of Meteors.	Radiation-points.		No. of Meteors.	Radiation-points.	
	R.A.	Decl.		R.A.	Decl.
4	31°0	58°5	3	330°0	88°0
4	43°0	59°0	3	337°0	49°0
3	269°0	21°5	4	347°0	61°0
4	283°5	18°0	4	358°0	51°5
3	326°0	46°0			

1877. August 10. Nos. 1 and 2.

3	173°0	76°0	3	212°5	70°5
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TABLE III. (The 80 probable Radiants.)

1874. April 19, 20, 21.

No. of Radiant.	Nos. of the Radiation-points.	Position of Radiant.	
		R.A.	Decl.
1	1, 2	226°3	63°5
2	4, 5	268°1	33°1

1878. April 19, 20, 21.

3	1, 2	216°8	57°3
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1873. July 25, 26.

4	1, 9	357°0	65°7
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1873. July 27.

5	10, 11	287°5	71°6
	12, 13	326°9	3°3

1875. July 26, 27, 28, 29.

7	3, 4	285°3	52°0
8	6, 7, 8, 10, 11	310°3	45°4
9	9, 12	312°8	71°6

1875. July 31.

10	16, 17	295°9	— 5°8
11	18, 19	314°0	30°7
12	20, 21	317°0	17°7
13	22, 23	335°1	25°6

1876. July 26, 27, 28.

14	1, 2, 3, 14, 15	1°0	66°8
15	5, 6	287°8	45°1
16	10, 11, 12	334°6	42°3
17	9, 13, 14	339°6	73°0

1871. July 28, 29.

No. of Radiant.	Nos. of the Radiation-points.	Position of Radiant. R.A. Decl.	
18	3, 4, 6	286°3	31°0
19	8, 9	305°0	— 3°5
20	10, 11	350°5	15°5

1871. August 9.

21	3, 4, 5	160°0	82°0
22	8, 10	268°8	44°2

1872. August 6, 7.

23	1, 2, 3	305°2	42°3
24	4, 5	339°1	46°9

1872. August 9.

25	15, 16, 17, 18, 19	346°9	54°8
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1872. August 10.

26	21, 22	41°9	58°0
27	24, 25	297°0	27°0
28	26, 27	309°9	52°7
29	28, 30, 31, 35, 36	333°8	69°0
30	33, 34, 37	346°3	55°3

1872. August 11.

31	39, 42	307°7	60°0
32	42, 43, 44, 45, 46	336°9	44°0

1872. August 12, 13.

33	47, 48, 49	8°0	46°3
34	53, 54	329°5	61°3
35	56, 57, 58	355°0	46°0

1874. August 8, 10.

36	5, 6, 7	13°3	44°9
37	13, 14	31°6	48°7
38	{ 7, 8, 9, 10, 11, 16, 19, 20, } { 23, 24, 25, 26, 27, 28 } }	36°6	65°6
39	15, 18, 21, 22, 27	38°5	56°6
40	31, 32	63°0	67°8
41	34, 35	75°3	65°4
42	39, 40, 41	323°2	48°1
43	1, 2, 3, 4, 49, 50, 52, 53, 54,	359°0	52°5

1874. August 11, 12.

No. of Radiant.	Nos. of the Radiation-points.	Position of Radiant. R.A.	Decl.
44	58, 59, 60	261°0	70°7
45	61, 62	291°1	49°7

1875. August 8.

46	1, 2, 3	22°7	74°2
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1875. August 9.

47	12, 14	308°0	32°2
48	15, 16, 17, 18, 19, 20	330°0	54°9

1875. August 10.

49	26, 27, 28	31°7	55°8
50	29, 30	39°1	65°2
51	31, 32, 33	47°1	51°3
52	34, 35	57°1	66°5
53	39, 40	249°0	54°0
54	41, 42, 43	270°7	46°6
55	48, 51	324°0	47°6
56	53, 54, 55	341°3	75°5

1875. August 11, 12.

57	59, 60	257°8	48°5
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1876. August 12, 13, 14.

58	2, 3	218°3	55°8
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1877. August 12, 13.

59	2, 3, 4	6°3	50°2
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1872. October 20, 22, 25, 27.

60	5, 6, 7, 8	329°0	61°8
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1872. November 28.

61	1, 2, 3	327°3	62°9
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ZÁGRÁB (AGRAM).

1875. July 25, 27.

62	4, 5, 6, 7, 9, 10	315°1	— 3°5
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1877. August 11, 12, 13.

No. of Radiant.	Nos. of the Radiation-points.	Position of Radiant. R.A.	Decl.
63	3, 4, 6, 7	270° 8	— 3° 7
64	8, 9, 10	298° 5	11° 9

SCHEMNITZ.

1875. July 25, 26, 27, 28.

65	4, 5, 7	340° 8	57° 2
66	6, 8	349° 1	19° 4

1878. July 25, 26.

67	1, 2, 3	270° 2	45° 6
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SZATHMÁR-NÉMETHI.

1875. August 10, 11, 12.

68	1, 2, 3, 4	15° 1	16° 1
69	5, 6	40° 0	49° 5
70	7, 8, 9	52° 7	52° 6

HÓDMEZŐ-VÁSÁRHELY.

1876. August 9, 10, 11.

71	1, 4	5° 6	42° 2
72	2, 3	7° 0	2° 3
73	6, 7	21° 4	62° 6
74	8, 9	46° 9	60° 0
75	10, 11, 12	63° 2	76° 4
76	17, 18, 19	345° 1	39° 9

1876. August 12, 13.

77	1, 2	7° 0	58° 8
78	5, 7	31° 5	47° 5
79	8, 9	352° 5	56° 3

1878. April 20, 21.

80	1, 2, 3	251° 8	24° 0
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